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| APPLICATION NO.   | FILING DATE        | FIRST NAMED INVENTOR    | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |              |                     |  |  |
|---|--------------------|-------------------------|--|------------------|--------------|---------------------|--|--|
| 10/824,715  | 04/15/2004         | Christopher J. Borrelli | X-1641-3 US  | 6763             |              |                     |  |  |
| 24309<br>XILINX, INC<br>ATTN: LEGAL DEPARTMENT<br>2100 LOGIC DR<br>SAN JOSE, CA 95124 | 7590<br>02/05/2007 |                         | <table border="1"><tr><td>EXAMINER</td></tr><tr><td>SHIN, CHRISTOPHER B</td></tr></table>                |                  | EXAMINER     | SHIN, CHRISTOPHER B |  |  |
| EXAMINER  |                    |                         |  |                  |              |                     |  |  |
| SHIN, CHRISTOPHER B   |                    |                         |  |                  |              |                     |  |  |
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| ART UNIT  | PAPER NUMBER       |                         |  |                  |              |                     |  |  |
| 2181  |                    |                         |  |                  |              |                     |  |  |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/05/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/824,715

Applicant(s)

BORRELLI ET AL.

Examiner

Christopher B. Shin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2 SHEETS</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fidler (US 2003/0172176) in view of Conner et al. (US 2004/0111537).

a. The Fidler reference teaches all of the limitations of the claimed limitations as follows:

#### Claims 25-31                      Fidler et al. (figures 1-2 & accompanying description)

- A data communication system
  - System of figure 1
- A network transceiver for communicating data using a protocol
  - (14)
- A processor for executing a protocol stack associated with said protocol
  - (26)
- Memory circuitry
  - (20)
- A DMA controller (DMAC) for controlling said memory circuitry
  - (18, 32)
- A MAC, coupled to said DMAC by a streaming interface
  - (16 & 32), coupled to (18) by (22)
- A transmit peripheral configured to receive a communication sequence from said DMAC over said streaming interface, said received communication sequence having data read from said memory circuitry
  - (18, 32)
- A receive peripheral configured to transmit a communication sequence to said DMAC over said streaming interface, said transmitted communication sequence having data written from said memory circuitry
  - (18,32)

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- MAC circuitry configured to transmit said data read from said memory circuitry to said network transceiver and received said data to be written to said memory circuitry from said network transceiver
  - Feature of (22, 32, 16)
- Said protocol comprises a Gigabit Ethernet protocol
  - Obvious feature of Ethernet
- A bus bridge (DCR) configured to receive control data from said processor, said control data operative to control said MAC circuitry
  - Feature (32), see also [0015] bottom
- Wherein said communication sequence received by said transmit peripheral and transmitted by said received peripheral comprises a header, a data section, and a footer section
  - Figure 2
- Control logic for extracting control data from at least one of said header and said footer
  - Feature of processing (34, 26, 48) by (10, 14, 16)
- Checksum computation logic for computing checksum data for said data read from said memory circuitry in response to said control data
  - Feature of processing (34, 46) by (10, 14, 16)
- Checksum computation logic for computing checksum data for said data to be written to said memory circuitry
  - Feature of processing (34, 46) by (10, 14, 16)
- Control logic for inserting first control data into said header and second control data into said footer
  - Feature of processing (34, 36, 48) by (10, 14, 16)
- FIFO memory for storing data
  - (22)
- DMA descriptor
  - Feature of (18) utilizing figures 3 –4, see also [0019]

b. As for the claims 25-31, as can be seen from the Fidler reference teaches all the basic principles that are equivalent/analogous to the claimed invention; however, the Fidler does not expressly show identical details of the claimed invention. For example, the exact details of the DCR Bridge, logic for handling checksum data, header, footer, data section, control data, DMA controller/descriptor; however, such details are common knowledge in the art of

Interface device utilizing DMA-MAC controllers. As evidence, Conner reference is one of the example teaches & utilizes DMA-MAC controller with more details of DMA with gigabit Ethernet media access network controller for more efficient data handling.

Since both the Fidler and Connor references are from the same field of endeavor, it would have been obvious at the time the invention was made to one having ordinary skill in the art to come up with the invention from Fidler and the Connor for the reasons stated above.

c. As for broader apparatus claims 1-14, the teachings of the claims 25-31 are similarly applied.

d. As for method claims 15-19 & 20-24, the teachings of the claims 25-31 are similarly applied.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher B. Shin whose telephone number is 571-272-4159. The examiner can normally be reached on 6:30-5:00 M,Tu,Th,F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRISTOPHER SHIN  
PRIMARY EXAMINER  
OF 2181

January 26, 2007  
CS

A handwritten signature in black ink, appearing to be 'CS' followed by a stylized flourish.